

## Problem Statement-2

```
package datastructures;
import java.util.Arrays;
public class ExpSearch {
public static void main(String[] args){
    int[] arr = {6,12,18,24,32};
    int length= arr.length;
    int value = 18;
    int outcome = exponentialSearch(arr,length,value);
    if(outcome<0){
        System.out.println( "Element is not present in the array");
    }else {
        System.out.println( "Element is present in the array at index
:" +outcome);
    }
}

public static int exponentialSearch(int[] arr ,int length, int value ){
    if(arr[0]==value){
        return 0;
    }
    int i=1;
    while(i<length && arr[i]<=value){
        i=i*2;
    }
    return Arrays.binarySearch(arr,i/2,Math.min(i,length),value);
}
}
```

```
BinarySearch.java  Bubblesort.java  ExpSearch.java x  InsertionSort.java  LinearSearch.java  MergeSort.java  SelectionSort.java
1 package datastructures;
2
3 import java.util.Arrays;
4
5 public class ExpSearch {
6
7     public static void main(String[] args){
8
9         int[] arr = {6,12,18,24,32};
10        int length= arr.length;
11        int value = 18;
12        int outcome = exponentialSearch(arr,length,value);
13
14        if(outcome<0){
15
16            System.out.println( "Element is not present in the array");
17
18        }else {
19
20            System.out.println( "Element is present in the array at index :"+outcome);
21
22        }
23
24        public static int exponentialSearch(int[] arr ,int length, int value ){
25
26            if(arr[0]==value){
27
28                return 0;
29            }
30
31            if(arr[length-1]==value){
32                return length-1;
33            }
34
35            int start = 1;
36            int end = length;
37
38            while(start<end){
39                int mid = (start+end)/2;
40                if(arr[mid]==value){
41                    return mid;
42                }
43                else if(arr[mid]<value){
44                    start = mid+1;
45                }
46                else{
47                    end = mid-1;
48                }
49            }
50            return -1;
51        }
52    }
53}
```

Problems Javadoc Declaration Console x

<terminated> ExpSearch [Java Application] C:\Users\Swaroop\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86\_64\_17.0.7.v20230425-1502\jre\bin

Element is present in the array at index :2